

Panasonic®

Operating Instructions CD Stereo System



The illustrations show SC-AK350.

Model No. **SC-AK350**
SC-AK250

Dear customer

Thank you for purchasing this product.

For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following systems.

AK350 : indicates features applicable to SC-AK350 only.

AK250 : SC-AK250 only.



System	SC-AK350	SC-AK250
Main unit	SA-AK350	SA-AK250
Speakers	SB-AK350	SB-AK250

SUPPLIED ACCESSORIES

Please check and identify the supplied accessories.
Use numbers indicated in parentheses when asking for replacement parts. (As of January 2007)

1 x AC mains lead	2 x Remote control batteries
For the United Kingdom	
(K2CT3CA00004)	1 x FM indoor antenna
For Continental Europe	For Europe
(K2CQ2CA00006)	(RSA0007-L)
For Australia and N.Z.	For Australia and N.Z.
(K2CJ2DA00008)	(RSA0006-L)
1 x Remote Control	1 x AM loop antenna
For Europe	(N1DAAA00001)
(N2QAYB000143)	
For Australia and N.Z.	
(N2QAYB000144)	

Operations in these instructions are described mainly using remote control, but you can perform the operations on the main unit if the controls are the same.

Unless otherwise indicated, illustrations in these operating instructions are of SC-AK350 for the United Kingdom and Continental Europe.

Your unit may not look exactly the same as illustrated.

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Before connecting, operating or adjusting this product, please read these instructions completely.
Please keep this manual for future reference.

Note:

"EB" on the packaging indicates the United Kingdom.

LUOKAN 1 LASERLAITE KLASS 1 LASER APPARAT

CAUTION	- CLASS 1M INVISIBLE LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. ER000205-14-04 Class 1M
WARNING	- CLASS 1M OSYLVING LASERSTRALUNG NAR DENNA DEL. AR ÖPPNAD. BETRÄKTA ÖG STRÅLEN OCH/ELLER GENOM OPTISKT INSTRUMENT.
FORSIGTSIG	- OSYLVING LASERSTRÅLING KLASSE 1M. NÅR LÅGET ER ÅBENT, UNDGÅ AT SE LIGE PÅ ØJENE OPTISKE INSTRUMENTER.
VARO!	- RÄTTÄSSÄTÄ ELLÄ ALTIIN LUKAAN 1M NÄMÄKÄNTÄÄ LASERSÄTEÄ. ÄLÄ KATSO OPTISELLÄ LAITTEELLA SUORAAN SÄTEEN.
VORSICHT	- LASERSTRALUNG KLASSE 1M. WENN ABERKUNDE GEÖFFNET, NICHT DIREKT MIT OPTISCHEN INSTRUMENTEN BEACHTEN.
ATTENTION	- RAYONNEMENT LASER INVISIBLE, CLASSE 1M EN CAS D'OUVERTURE. NE PAS REGARDER DIRECTEMENT LA LUCE D'UN INSTRUMENT D'OPTIQUE.
注意	- ヒームと不可視レーザーが放射します。 こゝを覗いたり、触たりしないでください。
注意	- 打升時有可能に激光照射。避免光直射。 （照度）：2000Lux ROXUS

■ **Sales and Support Information**
(For the United Kingdom and Republic of Ireland)

- For UK customers: 08705 357357
- For Republic of Ireland customers:
01 289 8333
- Visit our website for product information
- E-mail: customer.care@panasonic.co.uk

- Order accessory and consumable items for your product with ease and confidence by phoning our Customer Care Centre Monday-Friday 9:00am-5:30pm (Excluding public holidays).
- Or go on line through our Internet Accessory ordering application at www.panasonic.co.uk.
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK Ltd.
- It couldn't be simpler!
- Also available through our Internet is direct shopping for a wide range of finished products, take a browse on our website for further details.

*Interested in purchasing an extended guarantee?
Please call 0870 240 6284 or visit our website
www.panasonic.co.uk/guarantee.*

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

This symbol is only valid in the European Union.
If you wish to discard this product, please contact your
local authorities or dealer and ask for the correct method
of disposal.

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI
LEUDOSSA ILMASTOSSA.

DETTE APPARATET ER BEREGNET TIL BRUK
UNDER MODERATE KLIMAFORHOLD.

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR
PERFORMANCE OF PROCEDURES OTHER THAN
THOSE SPECIFIED HEREIN MAY RESULT IN
HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR
YOURSELF. REFER SERVICING TO QUALIFIED
PERSONNEL.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK
OR PRODUCT DAMAGE,

- DO NOT EXPOSE THIS APPARATUS TO RAIN,
MOISTURE, DRIPPING OR SPLASHING AND THAT
NO OBJECTS FILLED WITH LIQUIDS, SUCH AS
VASES, SHALL BE PLACED ON THE APPARATUS.
- USE ONLY THE RECOMMENDED ACCESSORIES.
- DO NOT REMOVE THE COVER (OR BACK); THERE
ARE NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE
PERSONNEL.

CAUTION!

- DO NOT INSTALL OR PLACE THIS UNIT IN A
BOOKCASE, BUILT-IN CABINET OR IN ANOTHER
CONFINED SPACE. ENSURE THE UNIT IS
WELL VENTILATED. TO PREVENT RISK OF
ELECTRIC SHOCK OR FIRE HAZARD DUE TO
OVERHEATING, ENSURE THAT CURTAINS AND
ANY OTHER MATERIALS DO NOT OBSTRUCT THE
VENTILATION VENTS.
- DO NOT OBSTRUCT THE UNIT'S VENTILATION
OPENINGS WITH NEWSPAPERS, TABLECLOTHS,
CURTAINS, AND SIMILAR ITEMS.
- DO NOT PLACE SOURCES OF NAKED FLAMES,
SUCH AS LIGHTED CANDLES, ON THE UNIT.
- DISPOSE OF BATTERIES IN AN
ENVIRONMENTALLY FRIENDLY MANNER.

The socket outlet shall be installed near the equipment
and easily accessible.

The mains plug of the power supply cord shall remain
readily operable.

To completely disconnect this apparatus from the AC
Mains, disconnect the power supply cord plug from AC
receptacle.

This product may receive radio interference caused by
mobile telephones during use. If such interference is
apparent, please increase separation between the product
and the mobile telephone.

SUOMI

VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ
KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA
ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1
YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VAROITUS:

VÄHENNÄ TULIPALON, SÄHKÖISKUN TAI
LAITTEISTON VAHINGOITTUMISEN VAARAA

- TÄTÄ LAITETTA EI SAA ALTISTAA SATEELLE,
KOSTEUELLE, ROISKEILLE TAI TIPPUVILLE
NESTEILLE. LAITTEEN PÄÄLLE EI SAA
MYÖSKÄÄN ASETTAA MITÄÄN NESTEELLÄ
TÄYTETTYÄ ESINettä, KUTEN MALJAKKOA.
- KÄYTÄ VAIN SUOSITELTUJA LISÄVARUSTEITA.
- ÄLÄ IRROTA KANTTA (TAI TAUSTAA). SISÄLLÄ
EI OLE KÄYTTÄJÄN HUOLLETTAVISSA OLEVIA
OSIA. HUOLLON SAA SUORITTAA VAIN
AMMATTITAITOINEN HENKILÖKUNTA.

VAROITUS!

- ÄLÄ ASENNATA TAI LAITA TÄTÄ LAITETTA
KABINETTITYYPPISEEN KIRJAKAAPPIN TAI
MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS
ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN
MUU MATERIAALI EI HUONONNA TUULETUSTA,
JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA
JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.
- ÄLÄ PEITÄ LAITTEEN TUULETUSAUKKOJA
SANOMALEHDELLÄ, PÖYTÄLIINALLA, VERHOLLA
TAI MUULLA VASTAAVALLA ESINEELLÄ.
- ÄLÄ ASETA PALAVAA KYNTTILÄÄ TAI MUUTA
AVOTULEN LÄHDETTÄ LAITTEEN PÄÄLLE.
- HÄVITÄ PARISTOT LUONTOA
VAHINGOITTAMATTOMALLA TAVALLA.

Pistorasia tulee asentaa laitteen lähelle helpopääsyiseen
paikkaan.

Verkkojohdon pistokkeen on oltava aina helposti
käytettävissä.

Tämä laite voidaan kytkeä kokonaan irti verkkovirrasta
irrottamalla verkkojohdon pistoke pistorasiasta.

NORSK

ADVARSEL!

DETTE PRODUKTET ANVENDER EN LASER.
BETJENING AV KONTROLLER, JUSTERINGER ELLER
ANDRE INNGREP ENN DE SOM ER BESKREVET
I DENNE BRUKSANVISNING, KAN FØRE TIL FARLIG
BESTRÅLING.

DEKSLER MÅ IKKE ÅPNES, OG FORSØK ALDRI
Å REPARERE APPARATET PÅ EGENHÅND. ALT
SERVICE OG REPARASJONSARBEID MÅ UTFØRES
AV KVALIFISERT PERSONELL.

ADVARSEL:

FØLG NEDENSTÅENDE INSTRUKSER FOR Å
REDUSERE RISIKOEN FOR BRANN, ELEKTRISK
STØT OG SKADE PÅ PRODUKTET:

- DETTE APPARATET MÅ IKKE UTSETTES FOR
REGN, FUKTIGHET, DRYPP ELLER SPRUT, OG
INGEN VÆSKEFYLTE GJENSTANDER, SOM F.EKS.
VASER, MÅ PLASSERES PÅ APPARATET.
- BRUK KUN ANBEFALT TILBEHØR.
- IKKE FJERN DEKSELET (ELLER BAKSIDEN);
APPARATET INNEHOLDER INGEN DELER SOM
KAN SKIFTES ELLER REPARERES AV BRUKEREN.
OVERLAT TIL KVALIFISERTE SERVICETEKNIKERE
Å UTFØRE SERVICE.

ADVARSEL!

- APPARATET MÅ IKKE PLASSERES I EN
BOKHYLLE, ET INNEBYGGET KABINETT
ELLER ET ANNET LUKKET STED HVOR
VENTILASJONSFORHOLDENE ER UTIL-
STREKKELIGE. SØRG FOR AT GARDINER
ELLER LIGNENDE IKKE FORVERRER
VENTILASJONSFORHOLDENE, SÅ RISIKO FOR
ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET
AV OVERHETING UNNGÅS.
- APPARATETS VENTILASJONSÅPNINGER MÅ
IKKE DEKKES TIL MED AVISER, BORDDUKER,
GARDINER OG LIGNENDE.
- PLASSER IKKE ÅPEN ILD, SLIK SOM LEVENDE
LYS, OPPÅ APPARATET.
- BRUKTE BATTERIER MÅ KASSERES UTEN FARE
FOR MILJØET.

Strømuttaket må befinne seg i nærheten av utstyret og
være lett tilgjengelig.

Støpslet på strømkabelen må være klart til bruk.

Når dette apparatet skal kobles helt fra strømmettet (AC),
må støpslet på strømkabelen trekkes ut av stikkontakten.



Caution for AC Mains Lead

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.

If in any doubt please consult a qualified electrician.

IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

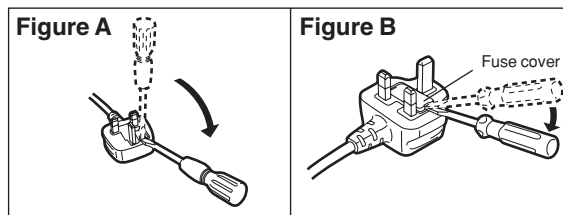
Remove the connector cover.

How to replace the fuse

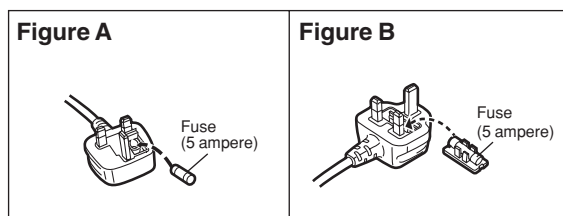
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



Safety precautions

Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Place it at least 15 cm away from wall surfaces to avoid distortion and unwanted acoustical effects.

Do not place heavy items on the unit.

Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

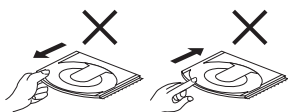
Handling of the disc trays and discs

Not doing the following will cause damage to the unit.

Removing the mains plug

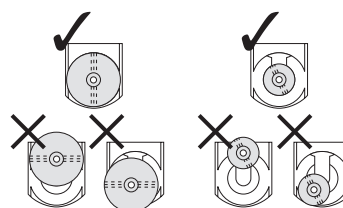
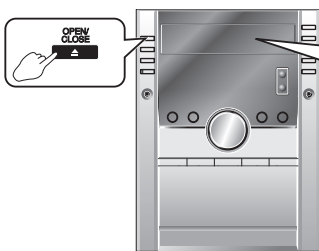
- Press [⏻/I] to turn off the unit and remove the mains plug only after all the displays have disappeared.

Tray caution



- Always press [▲, OPEN/CLOSE] to insert or remove a disc.
- Do not push or pull out the tray by hand as this will cause an accident.

Inserting a disc



- Place the disc correctly label-up as shown in the diagram.
- Insert one disc into the tray.

Placement of speakers

Speakers are designed identically so that no left or right channel orientation is necessary.

For Europe

AK350 AK250



For Australia and N.Z.

AK250



You cannot take the front net off the speakers.

Use only the supplied speakers.

The combination of the main unit and speakers provide the best sound. Using other speakers can damage the unit and sound quality will be negatively affected.

Note:

- Keep your speakers at least 10mm away from the system for proper ventilation.
- These speakers do not have magnetic shielding. Do not place them near televisions, personal computers or other devices easily influenced by magnetism.
- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage.
 - When playing distorted sound.
 - When adjusting the sound quality.

Caution

- Use the speakers only with the recommended system. Failure to do so can damage the amplifier and speakers, and can cause fire. Consult a qualified service person if damage occurs or if a sudden change in performance is apparent.
- Do not attach these speakers to walls or ceilings.

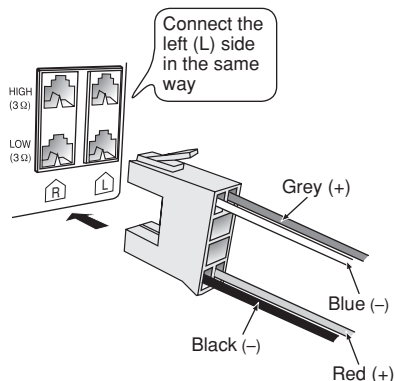
Getting started

Making the connections

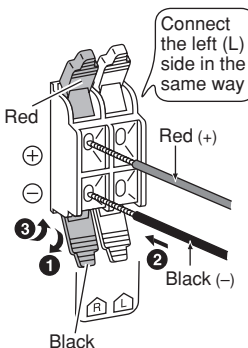
Connect the AC mains lead only after all other connections have been made.

Connect the speaker cords.

AK350

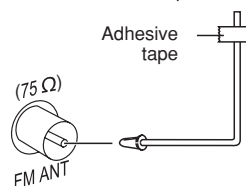


AK250

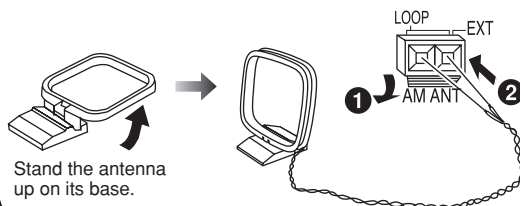


Connect the FM indoor antenna.

Tape the antenna where reception is best.



Connect the AM loop antenna.

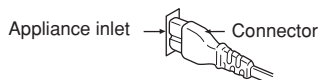


Connect the AC mains lead.

FOR THE UNITED KINGDOM ONLY
READ THE CAUTION FOR AC MAINS LEAD ON
PAGE 4 BEFORE CONNECTION.

Insertion of connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. However there is no problem using the unit.



For your reference

To save power when the unit is not to be used for a long time, unplug it from the household mains socket. You will need to reset some memory items after plugging in the unit.

Note:

The included AC mains lead is for use with this unit only. Do not use it with other equipment.

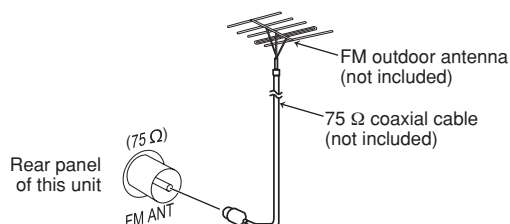
Optional antenna connections

Use outdoor antenna if radio reception is poor.

Note:

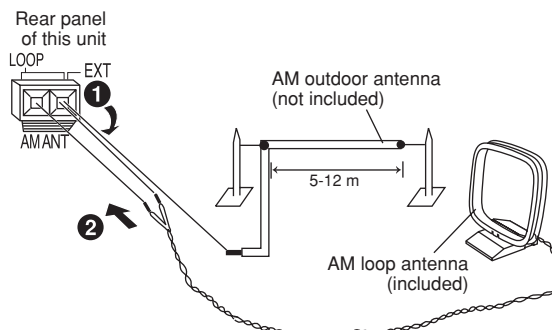
Disconnect the outdoor antenna when the unit is not in use. Do not use the outdoor antenna during a lightning storm.

FM outdoor antenna



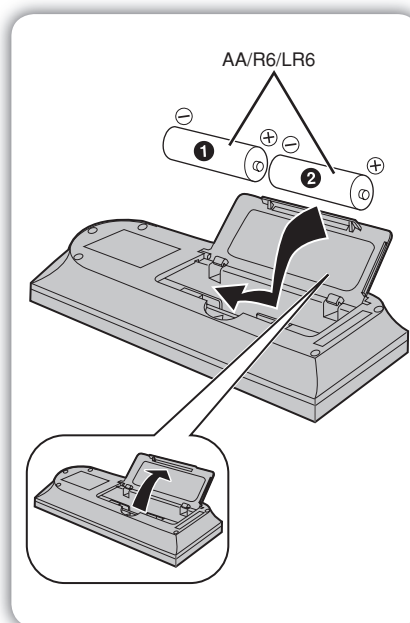
- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

AM outdoor antenna



- Run a piece of vinyl wire horizontally across a window or other convenient location.
- Leave the loop antenna connected.

Preparing the remote control



Batteries

- Insert so the poles (+ and –) match those in the remote control.
- Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.
- Replace if the unit does not respond to the remote control even when held close to the front panel.
- Do not use rechargeable type batteries.
- Mishandling of batteries in the remote control can cause electrolyte leakage, which may cause a fire.
- If electrolyte leaks from the batteries, consult your dealer. Wash thoroughly with water if electrolyte comes in contact with any part of your body.

Do not:

- mix old and new batteries.
- use different types of batteries at the same time.
- heat or expose batteries to flame.
- take apart or short circuit the batteries.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.
- put heavy objects on the remote control.
- spill liquids onto the remote control.

Use

Aim at the remote control sensor, avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

Refer to page 8 for the remote control sensor position.

DEMO function



When the unit is first plugged in, a demonstration of its functions may be shown on the display.

If the demo setting is off, you can show a demonstration by selecting "DEMO ON".

Press and hold [■, STOP, -DEMO].

The display changes each time the button is held down.

NO DEMO (off) ↔ DEMO ON (on)

While in standby mode, select "NO DEMO" to reduce power consumption.

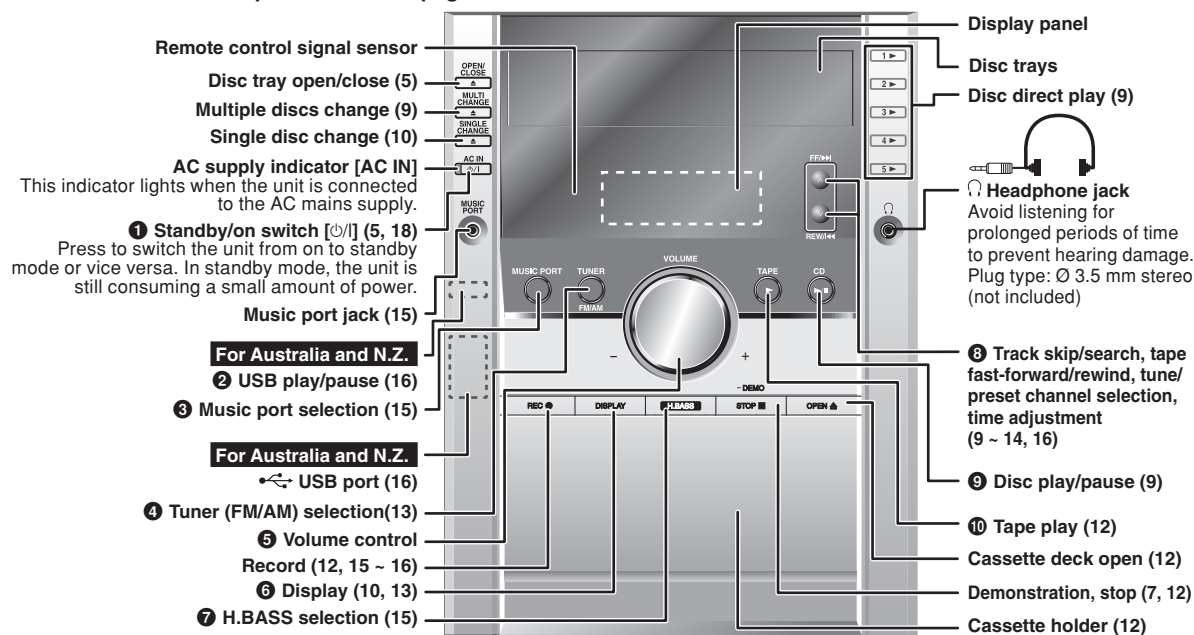
Note:

DEMO function cannot be turned on when Dimmer is on.

Overview of controls

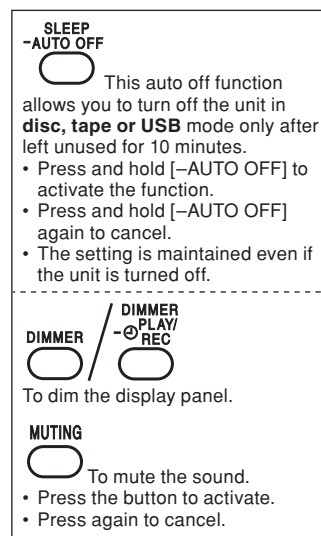
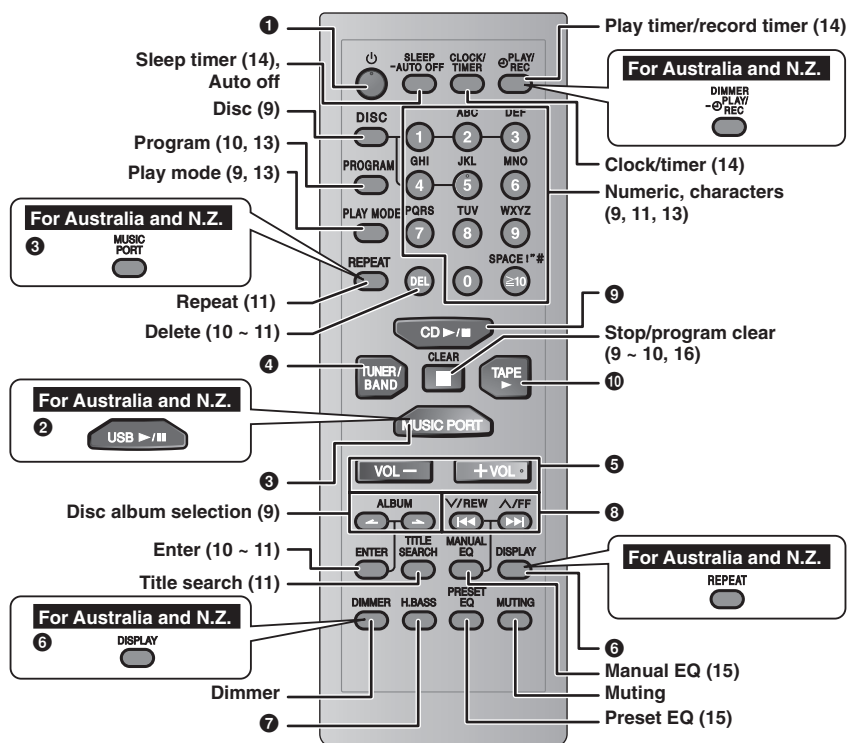
Main unit

Refer to the numbers in parentheses for page reference.



Remote control

Buttons such as 1 function the same as the controls on the main unit.

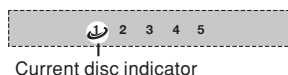


Discs



Basic play

- 1 Press [▲, OPEN/CLOSE] on the main unit to open the tray.
The unit turns on, load a disc in the current tray with the label facing up.
Press [▲, OPEN/CLOSE] to close the tray.
- 2 Press [▶/II, CD] to start play.
You can also press [DISC] and then [1] ~ [5] to select and play the other loaded discs.



Current disc indicator

To	Action
stop play CLEAR 	Press [■, CLEAR] during play. MP3 Display when in the stop mode: Example: "MP3" indicates the disc contains MP3 files. Total number of albums Total number of tracks
pause play 	Press [▶/II, CD] during play. Press again to resume play.
skip album ALBUM 	MP3 Press [ALBUM (← or →)] to select the desired album during play or when in stop mode. Display when selecting in stop mode (example): Current album Number of tracks in current album <ul style="list-style-type: none">• This function does not work during 1-DISC RANDOM and ALL-DISC RANDOM mode.
skip tracks V/REW A/FF 	Press [◀◀, V/REW] or [▶▶, A/FF]. <ul style="list-style-type: none">• During random play (⇒ see right, "Play Mode function"), you cannot skip to tracks which have been played. MP3 During 1-ALBUM and 1-ALBUM RANDOM mode, track skipping can only be done within the current album.
search through tracks V/REW A/FF 	CD Press and hold [◀◀, V/REW] or [▶▶, A/FF] during play or pause to search. <ul style="list-style-type: none">• During program play (⇒ page 10), or random play (⇒ see right, "Play Mode function"), you can search only within the track.



Play Mode function

You can listen to specific discs and tracks.

Preparation

Select and play your desired disc.

Press [PLAY MODE] to select the desired mode.

Mode	To play
1-DISC 1 DISC	one selected disc.
ALL-DISC ALL DISC	all loaded discs in succession from the selected disc to the final disc. Example: 4→5→1→2→3.
1-TRACK 1-TR	one selected track on the selected disc. CD Press the numeric buttons to select the track in the current disc. Play starts from the selected track.
1-ALBUM 1-ALB ALBUM	MP3 Press [ALBUM (← or →)] to select the album. Press [◀◀, V/REW] or [▶▶, A/FF], then the numeric buttons to select the track in the current album. Play starts from the selected track.
1-DISC RANDOM 1 DISC RND	one selected disc randomly.
1-ALBUM RANDOM 1-ALB RND ALBUM	MP3 all tracks in one selected album randomly. Press [ALBUM (← or →)] to select the album.
ALL-DISC RANDOM ALL DISC RND	all loaded discs randomly.

When playback ends

The current play mode will be retained in memory until it is changed even if the unit is turned off.

Note:

You cannot use program mode together with "Play Mode function".



Changing multiple discs (MULTI CHANGE)

By main unit only

- 1 Press [▲, MULTI CHANGE] to open the trays.
- 2 Press the button repeatedly to check and change multiple discs.

Note:

- The tray with a disc being played will not open.
- If the player is stopped, all trays will open. To close the remaining trays simultaneously, press [▲, OPEN/CLOSE].



Changing a single disc (SINGLE CHANGE)

By main unit only

While one disc is playing, you can change the discs in other trays.

- 1 Press [▲, SINGLE CHANGE].
- 2 Press [▶, 1] ~ [▶, 5] to select the desired tray.
- 3 Change the disc.
- 4 Press [▲, SINGLE CHANGE] again to close the tray.



Checking the track information

CD MP3

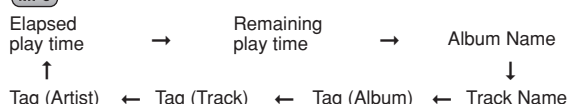
You can select a desired disc display mode.

Press [DISPLAY] during play or pause.

CD

Elapsed play time ↔ Remaining play time

MP3



Note:

CD

- When track number 25 or greater is playing, remaining play time display shows “--:--”.

MP3

- When a title is longer than 9 characters, it will scroll across the display. The scrolling will start after every 3 seconds.
- “NO TAG” is displayed if titles with tags have not been entered.
- Maximum number of displayable characters: approximately 32
- This unit can display album, track and artist name with MP3 ID3 tags (version 1.0 and 1.1).
- Titles containing text data that the unit does not support cannot be displayed.
- ID3 is a tag embedded in MP3 track to provide information about the track.
- Titles entered with 2-byte code cannot be displayed correctly on this unit.

Advanced play



Program play

CD MP3

This function allows you to program up to 24 tracks.

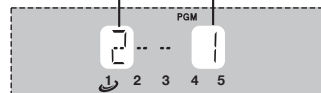
CD

- 1 Press [▶/II, CD] and then [■, CLEAR].
- 2 Press [PROGRAM].
“PGM” appears.
- 3 Press [DISC] and then [1] ~ [5] to select the disc.
- 4 Press the numeric buttons to select your desired track.
Repeat steps 3 to 4 to program other tracks.
- 5 Press [▶/II, CD] to start play.

MP3

- 1 Press [DISC] and then [1] ~ [5] to select the disc.
- 2 Press [■, CLEAR].
- 3 Press [PROGRAM].
- 4 Press [ALBUM (◀ or ▶)] to select your desired album.
To select an album directly, press the numeric buttons after pressing [ALBUM (◀ or ▶)].
- 5 Press [◀◀, √/REW] or [▶▶, ∧/FF] to select the track.
To select a track directly, press the numeric buttons after pressing [◀◀, √/REW] or [▶▶, ∧/FF].
- 6 Press [ENTER].
Repeat steps 4 to 6 to program other tracks.
- 7 Press [▶/II, CD] to start play.

For two-digit track, press [≥10] once then the two digits.
For three-digit track, press [≥10] twice then the three digits.

To	Action
cancel program mode	Press [PROGRAM] in the stop mode.
replay the program	Press [PROGRAM] then [▶/II, CD] in the stop mode.
add to the program	CD Repeat steps 3 to 4 in the stop mode. MP3 Repeat steps 4 to 6 in the stop mode.
check program contents	Press [◀◀, √/REW] or [▶▶, ∧/FF] when “PGM” is displayed in the stop mode. CD The track number, program order and disc number are displayed: Track number Program order 
clear the last track	Press [DEL] in the stop mode.
clear all programmed tracks	Press [■, CLEAR] in the stop mode. “CLEAR ALL” is displayed. Within 5 seconds, press the button again to clear all tracks.

Note:

- You cannot program CD-DA together with MP3 tracks.

MP3

- The program memory is cleared when you change a disc or open the disc tray.
- You cannot program more than one disc.



Repeat play

CD MP3

You can repeat program play or other selected play mode.

Press [REPEAT].

"O" is displayed.

To cancel

Press [REPEAT] again.

"O" is cleared.

Note:

You can use repeat mode with "Program play" (→ page 10) and "Play Mode function" (→ page 9).

Advanced function (MP3 only)



Album /Track title search

This function enables you to search your desired album or track.

- 1 Press [▶/II, CD] and then [■, CLEAR].
- 2 For album title search, press [TITLE SEARCH] once.
For track title search, press [TITLE SEARCH] twice.
- 3 Press the numeric buttons repeatedly to select your desired character then press [▶▶, ^/FF] to key in the next character.
 - You can enter up to 8 characters.
 - To edit, press [◀◀, √/REW] or [▶▶, ^/FF] to revise any characters.
 - To delete, move the cursor over the character and then press [DEL].

Numbered Button	Characters
≥10	space ! " # \$ % & ' () * + , - . / : ; = ? _ `

- You can search for "<" or ">" by entering "(" or ")".
- The special characters will be displayed as below:

Characters	Main unit display	Characters	Main unit display
!	▽	,	/
"	〃	—	--
#	ㄩ	.	•
\$	ㄩ	/	/
%	1/1	:	1
&	ㄩ	:	/
'	'	=	==
(〈	?	?
)	〉	—	—
*	※	、	
+	+		

- Some characters may not be displayed correctly due to the recording format/software used.

4 Press [ENTER].

Press [◀◀, √/REW] or [▶▶, ^/FF] to search for previous or next match.

The matched title is displayed.

Album title search

Blinks to indicate album title search mode



Matched album title

Track title search

Matched track title



Blinks to indicate track title search mode

5 Press [▶/II, CD] to start play from the album/track found.

Note:

This function does not work during any random/program mode.

NOTE on CDs

- This unit can access up to 99 tracks.
- Choose disc with this mark.



- This unit can play MP3 files and CD-DA format audio CD-R/RW that have been finalized.
- It may not be able to play some CD-R/RW due to the condition of the recording.
- Do not use irregularly shaped disc.
- Do not use disc with labels and stickers that are coming off or with adhesive exuding from under labels and stickers.
- Do not attach extra labels or stickers on the disc.
- Do not write anything on the disc.

Using DualDiscs

The "CD" sides of DualDiscs do not meet the CD-DA standard so it may not be possible to play them on this unit.

NOTE on MP3

- Files are treated as tracks and folders are treated as albums.
- This unit can access up to 999 tracks, 255 albums and 20 sessions.
- Disc must conform to ISO9660 level 1 or 2 (except for extended formats).
- To play in a certain order, prefix the folder and file names with 3-digits numbers in the order you want to play them.

When "NOT MP3/ERROR1" appears on the display, an unsupported MP3 format is being played. The unit will skip that track and play the next one.

Limitations on MP3 play

- If you have recorded MP3 on the same disc as CD-DA, only the format recorded in the first session can be played.
- Some MP3s may not be played due to the condition of the disc or recording.
- Recordings will not necessarily be played in the order you recorded them.

Cassette tape – Play and record

The buttons described for “Cassette tape – Play and record” are mainly for the main unit unless indicated otherwise.



Basic play

Use normal position tapes.

High position and metal position tapes can be played, but the unit will not be able to identify the characteristics of these tapes.

1 Press [▶, TAPE].

The unit turns on.

If a cassette was loaded, play starts automatically (One touch play).

2 Press [▲, OPEN] and insert the cassette.

Insert with the side to be played facing towards you and the exposed tape facing down. Close the holder by hand.

3 Press [▶, TAPE] to start play.

To	Action
stop tape playback	Press [■, STOP].
fast-forward and rewind	Press [V, REW/◀◀] or [^, FF/▶▶].



Note:

- Tapes exceeding 100 minutes are thin and can break or get caught in the mechanism.
- Tape slack can get caught up in the mechanism and should be wound up before the tape is played.

TPS (Tape Program Sensor)

This function enables you to search the beginning of up to a maximum of 9 tracks.

Press [V, REW/◀◀] or [^, FF/▶▶] during play.

Play resumes from the track found.

Note:

- TPS may not operate correctly in the following situations:
- If the interval between tracks is less than 4 seconds.
- If there is noise between tracks.
- If there are silent parts within tracks.



Recording

Selection of tapes for recording

Use normal position tapes.

High position and metal position tapes can be used, but this unit will not be able to record or erase them correctly.

Preparation

Wind up the source tape so recording can begin immediately.

1 Press [▲, OPEN] and insert the cassette to be recorded.

Insert with the side to be recorded facing towards you and the exposed tape facing down.

2 Select the source to be recorded.

Radio recording:

Tune in the station. (→ page 13)

Disc recording:

① Insert the disc(s) you want to record.

Press [▶/II, CD] and then [■, STOP].

② Prepare the desired disc recording mode.

To	Action
record programmed tracks	<p>CD</p> <p>Perform steps 2 to 4 in “Program play” (→ page 10).</p> <p>MP3</p> <p>Perform steps 3 to 6 in “Program play” (→ page 10).</p>

By remote control only

- | | |
|------------------------------|--|
| record specific discs/tracks | <p>1) Press [DISC] and then [1] ~ [5] to select the disc.</p> <p>Ensure disc is stopped.</p> <p>2) Press [PLAY MODE] to select the desired mode (→ page 9).</p> <p>3) MP3</p> <p>For 1-ALBUM mode and 1-TRACK mode: Press [ALBUM (◀ or ▶)] to select the album.</p> <p>CD MP3</p> <p>For 1-TRACK mode: Press [◀◀, V/REW] or [▶▶, ^/FF] to select the track.</p> |
|------------------------------|--|

3 Press [●, REC] to start recording.

Other basic operations

To	Action
stop recording	Press [■, STOP].
record on the other side of the tape	Turn the cassette over and press [●, REC].
erase a recorded sound	<p>1) Press [▶, TAPE] and then [■, STOP].</p> <p>2) Insert the recorded cassette.</p> <p>3) Press [●, REC].</p>

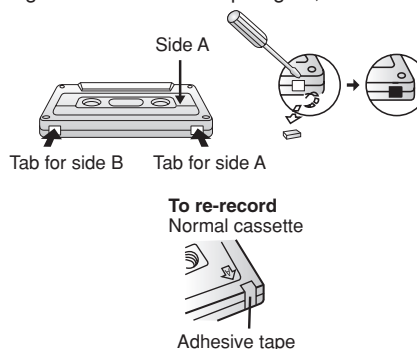
Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

Note:

Changes to volume and sound adjustments quality do not affect recording.

Erasure prevention

The illustration shows how to remove the tabs to prevent recording. To record on the tape again, cover as shown.



FM/AM radio



Manual tuning

- 1 Press [TUNER/BAND] to select "FM" or "AM".
- 2 Press [PLAY MODE] to select "MANUAL".
- 3 Press [◀◀, ∇/REW] or [▶▶, △/FF] to select the frequency of the required station.
"ST" is displayed when a stereo FM broadcast is being received.

To tune automatically

Press and hold [◀◀, ∇/REW] or [▶▶, △/FF] until the frequency starts changing rapidly. The unit begins auto tuning, stopping when it finds a station.

- Auto tuning may be interrupted when there is excessive interference.
- To cancel auto tuning, press [◀◀, ∇/REW] or [▶▶, △/FF] once again.



To improve FM sound quality

Press and hold [PLAY MODE] to display "MONO".

To cancel

Press and hold [PLAY MODE] again until "MONO" disappears.

- MONO is also cancelled if the frequency is changed.
- Turn off "MONO" for normal listening.



RDS broadcasting (For Europe)

This unit can display the text data transmitted by the radio data system (RDS) available in some areas.

If the station you are listening to is transmitting RDS signals, "RDS" will light up on the display.

Press [DISPLAY] to display:

Station name (PS) → Program Type (PTY) → Frequency display

Program type displays

NEWS	VARIED	FINANCE	COUNTRY
AFFAIRS	POP M	CHILDREN	NATIONAL
INFO	ROCK M	SOCIAL A	OLDIES
SPORT	M-O-R- M※	RELIGION	FOLK M
EDUCATE	LIGHT M	PHONE IN	DOCUMENT
DRAMA	CLASSICS	TRAVEL	TEST
CULTURE	OTHER M	LEISURE	ALARM
SCIENCE	WEATHER	JAZZ	

※ M-O-R- M = "Middle-of-the-Road music"

Note:

RDS displays may not be available if reception is poor.



Memory preset

20 FM and 15 AM stations can be preset.

Preparation

Press [TUNER/BAND] to select "FM" or "AM".



Automatic presetting

- 1 Tune to the frequency where presetting is to begin.
- 2 Press and hold [PROGRAM] to start presetting.



The tuner presets all the stations it can receive into the channels in ascending order. When finished, the last station memorized is tuned in.



Manual presetting

- 1 Press [PLAY MODE] to select "MANUAL".
- 2 Press [◀◀, ∇/REW] or [▶▶, △/FF] to tune to the required station.
- 3 Press [PROGRAM].
- 4 Press the numeric buttons to select a channel.
For channels 10 to 20 press [≥10], then the two digits.
The station occupying a channel is erased if another station is preset to that channel.



Selecting a preset station

Press the numeric buttons to select the channel.



OR

- 1 Press [PLAY MODE] to select "PRESET".
- 2 Press [◀◀, ∇/REW] or [▶▶, △/FF] to select the channel.

Timer



Setting the clock

This is a 24-hour clock.

1 Press [CLOCK/TIMER] to select "CLOCK".

Each time you press the button:



2 (Within 8 seconds or so)

Press [◀, √/REW] or [▶, ∧/FF] to set the time.

3 Press [CLOCK/TIMER] to finish setting the time.

Displaying the clock

Press [CLOCK/TIMER] once when the unit is on or in standby mode.

The time is displayed for a few seconds.

Note:

Reset the clock regularly to maintain accuracy.



Using the play or record timer

You can set the timer to come on at a certain time to wake you up (play timer) or to record from the radio or the external equipment (record timer).

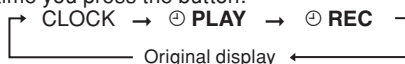
Play timer and record timer cannot be used together.

Turn the unit on and set the clock.

Timer	Action
Play timer	Prepare the music source you want to listen to; cassette, disc number (1 ~ 5), radio or other external equipments, and set the volume.
Record timer	Check the cassette's erasure prevention tabs (➡ page 12), insert the cassette and tune to the radio station (➡ page 13) or select the external equipment (➡ page 15 ~ 16).

1 Press [CLOCK/TIMER] to select the timer function.

Each time you press the button:

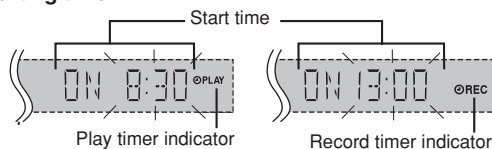


◻PLAY : to set the play timer

◻REC : to set the record timer

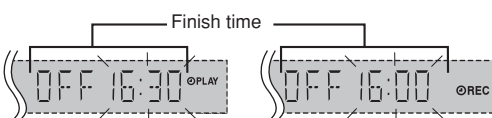
(Proceed to the next step **within 8 seconds**)

2 Press [◀, √/REW] or [▶, ∧/FF] to set the starting time.



3 Press [CLOCK/TIMER] to confirm.

4 Repeat steps 2 to 3 to set the finishing time.



To activate the timer

5 Press [◻PLAY/REC] repeatedly to turn on your desired timer.



6 Press [◻] to turn off the unit.

The unit must be off for the timers to operate.

Other basic operations

To	Action
change the settings	Repeat steps 1 to 4 and 6 (➡ see left and above).
change the source or volume	1) Press [◻PLAY/REC] to clear the timer indicator from the display. 2) Make changes to the source or volume. 3) Perform steps 5 to 6 (➡ see above).
check the settings	Press [CLOCK/TIMER] repeatedly to select ◻PLAY or ◻REC.
cancel	Press [◻PLAY/REC] to clear the timer indicators from the display.

If you use the unit after the timers are set

After using, check that the correct tape/disc are loaded before turning the unit off.

Note:

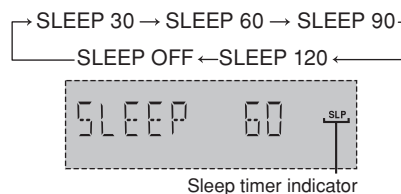
- The play timer will start at the preset time with volume increasing gradually to preset level.
- The record timer will start 30 seconds before the set time with the volume muted.
- The timer comes on at the set time every day if the timer is on.
- The unit must be in the standby mode for the timer to function.
- If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
- If MUSIC PORT is selected as the source when the timer comes on, the system turns on and engages MUSIC PORT as the source. If you wish to playback or record from the portable audio equipment, just activate the equipment's play mode and increase the volume. (See the portable audio equipment's instruction manual.)



Using the sleep timer

This function enables you to turn off the unit automatically after the set time.

Press [SLEEP] to select your desired time.



To cancel

Press [SLEEP] to select "SLEEP OFF".

Changing the remaining time

Press [SLEEP] to show the remaining time and press [SLEEP] again to select your desired time.

Note:

- The play and sleep timer or the record and sleep timer can be used together.
- The sleep timer always has priority. Be sure not to overlap timer settings.
- The sleep timer turns off when you perform the record function.

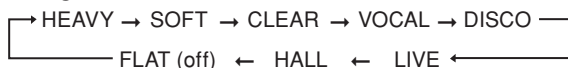
Sound adjustment

Selecting sound effects



Preset EQ

Press [PRESET EQ] repeatedly to select your desired setting.

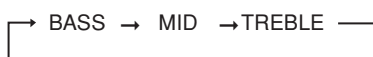


Setting	Effect
HEAVY	Adds punch to rock
SOFT	For background music
CLEAR	Clarifies higher frequencies
VOCAL	Adds gloss to vocal
DISCO	Produces sound with the same kind of lengthy reverberations heard at a disco
LIVE	Makes vocals more alive
HALL	Adds an expansiveness to the sound to produce the atmosphere of a great concert hall
FLAT	No effect



Manual EQ

1 Press [MANUAL EQ] repeatedly to select your desired setting.



Setting	Effect
BASS	For lower pitch sound
MID	For middle pitch sound
TREBLE	For higher pitch sound

2 Press [◀◀, √/REW] or [▶▶, ∧/FF] to adjust the level.

Note:

- The level of the pitch is between -3 to +3.
- The changes you make are stored and automatically recalled the next time you select "MANUAL EQ".



Enhancing the bass sound

You can enhance low-frequency sound so that heavy bass sound can be heard clearly, even if the acoustics of your room are not optimal.

To activate

Press [H.BASS].

To cancel

Press [H.BASS] again.

Note:

The actual effect depends on the disc.

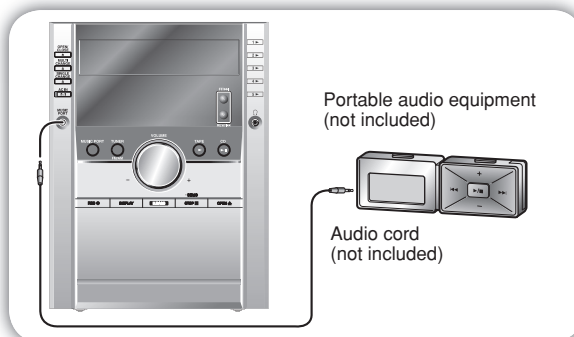
External unit

Connecting to a portable audio equipment

This feature enables you to enjoy music from a portable audio equipment.

Note:

All peripheral components and cables are sold separately.



Playing from a portable audio equipment

Switch off the equalizer function (if there is any) of the portable audio equipment before you plug into the MUSIC PORT jack. Otherwise, sound from the speaker may be distorted.

- 1 Plug the audio cord into the MUSIC PORT jack and press [MUSIC PORT].
- 2 Play the portable audio equipment. (See the portable audio equipment's instruction manual.)



Recording from a portable audio equipment

- 1 Press [MUSIC PORT].
- 2 Play the portable audio equipment.
- 3 Press [●, REC] on the main unit to start recording.

Connecting and playing a USB mass storage class device

For Australia and N.Z. AK250

MP3

The USB connectivity enables you to connect and play MP3 tracks from USB mass storage class. Typically, USB memory devices. (Bulk only transfer)

Preparation

Before connecting any USB mass storage device to the unit, ensure that the data stored therein has been backed up.

It is not recommended to use a USB extension cable. The USB device is not recognised by this unit.

USB enabled device
(not included)
It is not recommended
to use a USB extension
cable. The device
connected via the cable
will not be recognised by
this unit.



- 1 Reduce the volume and connect the USB mass storage device.
- 2 Press [▶/II, USB] to start play.

To	Action
pause play 	Press [▶/II, USB]. Press again to resume play.
stop play 	Press [■, CLEAR]. "RESUME" is displayed. The position is memorized. Press [▶/II, USB] to resume. Press [■, CLEAR] again to clear the position.
skip tracks 	Press [◀◀, V/REW] or [▶▶, ^/FF].
skip album 	Press [ALBUM (◀ or ▶)] in the play mode. Press [ALBUM (◀ or ▶)] once and then the numeric buttons in the stop mode.

For other operating functions, they are similar as those described in "Discs" (⇒ page 9 ~ 11).

REC ●

Recording from a USB mass storage class device

- 1 Press [◀◀, V/REW] or [▶▶, ^/FF] to select the desired track for recording.
- 2 Press [●, REC] on the main unit to start recording.

Compatible devices

Devices which are defined as USB mass storage class:

- USB devices that support bulk only transfer.
- USB devices that support USB 2.0 full speed.

Supported format

Files must have the extension ".mp3" or ".MP3".

Note:

- CBI (Control/Bulk/Interrupt) is not supported.
- A device using NTFS file system is not supported [Only FAT 16/32 (File Allocation Table 16/32) file system is supported].
- Depending on the sector size, some files may not work.
- This unit can access up to 255 albums (including blank folders) and 2500 tracks.
- The maximum number of tracks in a folder are 999 tracks.
- Only one memory card will be selected when connecting a multiport USB card reader. Typically the first memory card inserted.
- Disconnect the USB card reader from the unit when you remove the memory card. Failure to do so may cause malfunction to the device.
- When you connect your digital audio player to the USB port, it charges all the time except in standby mode or during tape recording.

MUSIC PORT



Changing the main unit and remote control mode

The remote control and main unit are factory-set to "REMOTE 1" mode.

If your remote control affects other equipment during operation, you can switch to operate in "REMOTE 2" mode.

To switch to "REMOTE 2" mode

- 1 While pressing and holding [MUSIC PORT] on the main unit
Press and hold [2] until "REMOTE 2" appears on the main unit display.
- 2 Press and hold [ENTER] and [2] for at least 2 seconds.
The main unit and remote control are now set to operate in "REMOTE 2" mode.

To return to "REMOTE 1" mode

Perform steps 1 and 2 above but use [1] instead of [2] for both steps. ("REMOTE 1" appears on the main unit during step 1.)

The remote control cannot work with the main unit if their modes are different.

"REMOTE 1" or "REMOTE 2" appears on the main unit display when you operate the remote control.*

- * If "REMOTE 1" appears (The main unit is in "REMOTE 1" mode.)
Press and hold [ENTER] and [1] on the remote control for at least 2 seconds.
- If "REMOTE 2" appears (The main unit is in "REMOTE 2" mode.)
Press and hold [ENTER] and [2] on the remote control for at least 2 seconds.

Troubleshooting guide

Before requesting service, make the checks below. If you can't fix the system as described below, or if something not listed here occurs, refer to the enclosed directory to locate an Authorized Service Center convenient to you or contact your dealer.

Reference pages are shown as black circled numbers ④.

Common problems

Although the unit is in standby mode, the display lights up and changes continuously.	Turn off the demo function. ⑦ If you set the clock, demo function will be turned off automatically. ⑭
No sound. Sound stops.	Turn the volume up. Switch off the unit, determine and correct the cause, then switch the unit on. Causes include straining of the speakers through excessive volume or power, and using the unit in a hot environment.
Sound is unfixed, reversed or comes from one speaker only.	Check the speaker connections. ⑥
Humming heard during play.	An AC mains lead or fluorescent light is near the cables. Keep other appliances and cords away from this unit's cables.
"ERROR" is displayed.	Incorrect operation performed. Read the instructions and try again.
"- -: -" appears on the display at standby mode.	You plugged the AC mains lead in for the first time or there was a power failure recently. Set the time. ⑭
"F61" is displayed.	Check and correct the speaker cords connection. ⑥ If this does not fix the problem, there is a power supply problem. Consult the dealer.

Listening to the radio

Noise is heard. The stereo indicator flickers or doesn't light. Sound is distorted.	Use an outdoor antenna. ⑦
A beat sound is heard.	Turn the TV off or separate it from the unit.
A low hum is heard during AM broadcast.	Separate the antenna from other cables and cords.

When there is a television set nearby

The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect. If you are using an indoor antenna, change to an outdoor antenna. The TV antenna wire is too close to the unit. Separate the antenna wire of the TV set from the unit.
---	--

Using the cassette deck

Poor sound quality.	Clean the heads. ⑮
Recording is not possible.	If the erasure prevention tabs have been removed, cover the holes with adhesive tape. ⑫

Playing discs

The display is wrong or play won't start.	The disc may be upside down. ⑤ Wipe the disc. Replace the disc if it is scratched, warped, or non-standard. Condensation may have formed inside the unit due to a sudden change in temperature. Wait for about an hour for it to clear and try again.
The total number of tracks displayed differs each time the same disc is inserted. Unusual sound is heard.	The disc may be scratched, or its data may be defective. Replace the disc.
CD-RW cannot be read.	The disc was incompletely formatted. Use the recording equipment to fully format the disc before recording.
"VBR-" is displayed instead of the remaining play time.	The unit cannot display the remaining play time for variable bit rate (VBR) tracks.

Troubleshooting guide (continued)

Disc trays

Disc tray(s) cannot open. "CHGR ERR" is displayed.	Press [⏏/I] to release the jammed tray(s) as the unit will switch off. Switch it on again and the tray(s) will initialize to the previous tray(s) condition. If this still does not fix the problem, please consult the dealer.
--	--

Remote control

Remote control doesn't work.	Check that the batteries are inserted correctly. ⑦ Replace the batteries if they are worn.
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USB

No response when [●, REC] button is pressed.	Disconnect the USB device and then reconnect it back. Alternatively, turn the unit off and then back on.
The USB drive or its contents cannot be read.	The USB drive format or its contents is/are not compatible with the system. ⑩ The USB host function of this product may not work with some USB devices. USB devices with storage capacity of more than 8 gigabytes may not work in some instances.
Slow operation of the USB flash drive.	Large file size or high memory USB flash drive takes longer time to read.
"USB OVER CURRENT ERROR"	The USB mass storage device rating exceeds 500mA. Disconnect the USB device. Turn the unit off and then back on.
"NO PLAY"	Check the content. Only MP3 format files can be played.

Memory reset (Initialization)

When the following situations occur, refer to the instructions below to reset the memory:

- There is no response when buttons are pressed.
- You want to clear and reset the memory contents.

To reset memory

- 1 Disconnect the AC mains lead. (Wait at least 3 minutes before proceeding to step 2)**
- 2 While pressing and holding down [⏏/I] on the main unit, reconnect the AC mains lead.**
"-----" appears on the display.
- 3 Release [⏏/I].**
All the settings are returned to the factory preset.
You will need to reset the memory items.

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

- Never use alcohol, paint thinner or benzene to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound (cassette deck)

Clean the heads regularly to assure good quality playback and recording. Use a cleaning tape (not included).

When moving the unit

- 1 Remove all discs.**
- 2 Press [⏏/I] to turn the unit off.**
- 3 Disconnect the AC mains lead.**

Specifications

AMPLIFIER SECTION **AK350**

RMS Output power	
THD 10%, both channels driven	
1 kHz	
(Low channel)	75 W per channel (3 Ω)
10 kHz	
(High channel)	75 W per channel (3 Ω)
Total Bi-Amp power	300 W

AMPLIFIER SECTION **AK250**

RMS Output power	
For Europe	
THD 10%, both channels driven	
1 kHz	50 W per channel (3 Ω)
Total output power	100 W
For Australia and N.Z.	
THD 10%, both channels driven	
1 kHz	115 W per channel (3 Ω)
Total output power	230 W

FM/AM TUNER, TERMINALS SECTION

Preset station	FM 20 stations AM 15 stations
Frequency Modulation (FM)	
Frequency range	87.50 to 108.00 MHz (50 kHz step)
Sensitivity	4.0 μV (IHF)
S/N 26 dB	2.2 μV
Antenna terminal(s)	75 Ω (unbalanced)
Amplitude Modulation (AM)	
Frequency range	522 to 1629 kHz (9 kHz step)
Sensitivity	
S/N 20 dB (at 999 kHz)	560 μV/m
Music Port input jack	
Terminal	Stereo, 3.5 mm jack
Sensitivity	100 mV, 4.7 kΩ
Phone jack	
Terminal	Stereo, 3.5 mm jack

CASSETTE DECK SECTION

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erase system	AC erase 100 kHz
Tape speed	4.8 cm/s
Overall frequency response (+3 dB, -6 dB) at DECK OUT	
NORMAL	35 Hz to 14 kHz
S/N Ratio	50 dB (A weighted)
Wow and flutter	0.18% (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

DISC SECTION

Disc played [8 cm or 12 cm]	
(1) CD-Audio (CD-DA)	
(2) CD-R/RW (CD-DA, MP3 * formatted disc)	
(3) MP3 *	
* MPEG-1 Layer 3, MPEG-2 Layer 3	
Bit rate	
MP3	32 kbps to 320 kbps
Sampling frequency	
MP3	32 kHz, 44.1 kHz, 48 kHz
CD-DA	44.1 kHz
Decoding	16 bit linear
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)
Pick up	
Wavelength	780 nm
Beam Source	Semiconductor laser
(For Norge)	
Bølgelengde	780 nm
Laserstyrke	Ingen farlig stråling sendes ut
Audio output (Disc)	
Number of channels	2(Stereo) (FL, FR)

USB SECTION **For Australia and N.Z.** **AK250**

Playable USB Storage Media	
1) HDD	
2) USB MP3 Player/Digital Audio Player	
3) USB Thumbdrives	
Supported audio file format	
MP3 bit rate	
USB memory port	
Maximum current	500 mA
Bit rate	
MP3	32 kbps to 320 kbps
Sampling frequency	
MP3	32 kHz, 44.1 kHz, 48 kHz
Audio output (MP3)	
Number of channels	2 channels
Frequency response (MP3)	
20 Hz to 20 kHz (0+/-1.0 dB)	
S/N Ratio	
USB unit out	85 dB

SPEAKER SECTION **AK350**

Type	2 way, 2 speaker system (Bass reflex)
Speaker(s)	
Woofer	16 cm cone type
Tweeter	6 cm cone type
Impedance	
HIGH	3 Ω
LOW	3 Ω
Input power (IEC)	
HIGH	75 W (Max)
LOW	75 W (Max)
Output sound pressure level	
85 dB/W (1.0 m)	
Cross over frequency	
2.5 kHz, 10 kHz	
Frequency range	
30 Hz to 28 kHz (-16 dB)	
35 Hz to 29 kHz (-10 dB)	
Dimensions (WxHxD)	
219 x 330 x 196 mm	
Mass	
2.6 kg	

SPEAKER SECTION **AK250**

Type	2 way, 2 speaker system (Bass reflex)
Speaker(s)	
Woofer	16 cm cone type
Tweeter	6 cm cone type
Impedance	
3 Ω	
Input power (IEC)	
50 W (Max)	
Output sound pressure level	
84 dB/W (1.0 m)	
Cross over frequency	
2 kHz	
Frequency range	
35 Hz to 30 kHz (-16 dB)	
23 Hz to 34 kHz (-10 dB)	
Dimensions (WxHxD)	
219 x 330 x 196 mm	
Mass	
2.6 kg	

GENERAL

Power supply	
For Continental Europe	AC 230 V, 50 Hz
For the United Kingdom, Australia and N.Z.	AC 230 to 240 V, 50 Hz

Power consumption

For Continental Europe	90 W
For the United Kingdom, Australia and N.Z.	

AK350	: 90 W
AK250	: 95 W
Dimensions (WxHxD)	
250 x 330 x 323 mm	
Mass	
For Continental Europe	AK350 : 7.1 kg
	AK250 : 6.3 kg

For the United Kingdom, Australia and N.Z.	7.1 kg
Operating temperature range	
+5 to +35 °C	
Operating humidity range	
5 to 90 % RH (no condensation)	

Power consumption in standby mode:	0.5 W (approx.)
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Note:

- Specifications are subject to change without notice.
Mass and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.
- AK350** The labels "HIGH" and "LOW" on the rear of the speakers refer to High frequency and Low frequency.

Matsushita Electric Industrial Co., Ltd.
Web Site: <http://panasonic.net>

En

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